

SE MRC College Algebra Content Review

System of Linear Equations in Two Variables Section 5.1

Learning Objectives:

1. Decide whether an ordered pair is a solution of a linear system.
2. Solve linear systems by substitution.
3. Solve linear systems by addition.
4. Identify systems that do not have exactly one ordered-pair solution.
5. Solve problems using systems of linear equations.

2. Determine whether the given ordered pair is a solution of the system.

$$3x + 2y = 4$$

$$2x - 3y = 29$$

Is $(6, -7)$ a solution of the system?

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1. Determine whether the given ordered pair is a solution of the system.

$$y = 6x - 18$$

$$3x + 6y = -30$$

Is $(2, -6)$ a solution of the system?

3. Solve the system by the substitution method.

$$x + 2y = 3$$

$$y = 2x + 14$$

4. Solve the system by the substitution method.

$$x = 8y + 4$$

$$x = 2y - 8$$

6. Solve the system by the addition method.

$$x + 3y = -2$$

$$2x + 5y = -3$$

5. Solve the system by the substitution method.

$$4x + 5y = 0$$

$$x - 3y = 0$$

7. Solve the system by the addition method.

$$3x - 2y = -5$$

$$4x + 5y = 1$$

8. Solve the system by the method of your choice.

$$5x = y - 8$$

$$5x - y = 8$$

10. Use the given conditions to write a system of equations. Solve the system and find the numbers.

The sum of two numbers is 10. If one number is subtracted from the other, the result is 2. Find the numbers.

9. Solve the system by the method of your choice.

$$2x + 4y = 10$$

$$5x + 10y = 25$$

11. Use the given conditions to write a system of equations. Solve the system and find the numbers.

Three times the first number decreased by the second number is 7. The first number increased by twice the second number is 14. Find the numbers.

Answer Key:

1.	Yes
2.	Not a solution.
3.	$(-5, 4)$
4.	$(-12, -2)$
5.	$(0, 0)$
6.	$(1, -1)$
7.	$(-1, 1)$
8.	There is no solution.
9.	There are infinitely many solutions.
10.	6, 4
11.	4, 5